

# Service Quality and Customer Satisfaction of Public Transport on Cape Coast-Accra Route, Ghana

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## Abstract

This study is to investigate customer satisfaction using SERVQUAL model with regards to public transportation, specifically intercity bus on Cape Coast- Accra route in Ghana. The SERVQUAL method comprised five dimensions namely reliability, assurance, tangibility, empathy and responsiveness. These five dimensions comprise 26 attributes. The route purposively chosen was Cape Coast- Accra route on which 162 copies of self-administered questionnaires were served on passengers by systematic sample. The results indicate gaps in two of the five dimensions and 15 attributes were ascertained to have influenced perception of service quality leading to customer dissatisfaction. Recommendations for improvement in service quality resulting in customer satisfaction have been made.

**Keywords:** public transport, intercity bus, SERVQUAL, customer satisfaction

## Introduction

Public transportation comprises all transport facilities in which passengers do not use their personal means of transportation to travel. It includes shared taxis, mini buses (popularly called tro-tro), buses, and trains. Public transportation is of essence to passengers, due to the fact that it offers opportunity to move from one location to the other with ease. Public transportation performs a lot of functions for passengers. It enhances the quality of life in societies on condition that it provides safe, efficient and inexpensive transportation services. Besides, the ease of use (availability) and cost effectiveness of public transport services is imperative to guaranteeing a resilient economy and improving mobility. Societies also benefits from the availability of public transportation services such that it lessens traffic congestion on our roads, saves money and creates and sustain jobs within communities.

The Governments of Ghana in the time past have been playing active role in providing public transport services. Its efforts resulted in the establishment of Omnibus Services Authority (OSA), State Transport Company (STC), City Express Services (CES), and lately Metro Mass Transit (MMT) Ltd. The private operators such as GPRTU, Cooperative Union and others have also been providing public transport services. There are over 60 transport companies offering in Ghana. Abane (2011) and Poku-Boansi and Adarkwa (2011) see the Ghana Private Road Transport Union (GPRTU) as a dominant player constituting almost 80% of intra urban public transport services. Abane (2013) similarly observes that GPRTU controls 70-80 percent of passenger and freight movements of inter-urban (intercity) public transport.

Public transportation in Ghana especially intercity bus transport has witnessed a growing preference for good buses as the sector continues to offer more options to passengers in terms of type of vehicle used. There is overt increase in the number of these buses operating on Ghanaian intercity routes. Public transport is said to be for the disadvantaged as they are compelled to travel by public buses with accompanying challenges in delay and discomfort (Davison and Knowles, 2006) leading to dissatisfaction (Aidoo et al, 2013). Its services are frequently insufficient to meet demand and the services that are provided (Ali, 2010). These challenges are not only endemic to intra urban public bus but also inter-urban public buses which invariably affect perception of service quality. In this vein, a couple of researches have been conducted on certain routes such as Kumasi-Accra (Aidoo et al., 2013), Cape Coast-Accra (Ojo et al., 2014). Aidoo et al although sought to find out passenger satisfaction with the use of adhoc attributes, whereas Ojo et al focused on passengers perceived quality using SERVQUAL scale.

This study seeks to find out how SERVQUAL attributes influence customer satisfaction on Cape Coast-Accra route in Ghana. The specific objectives are to identify the socio-demographic characteristics of the passengers of intercity buses; ascertain the SERVQUAL Gap scores and analyze how dimensions/attributes lead to customer satisfaction based on 26 item SERVQUAL model. The hypothesis for this study is that there is no significant relationship between SERVQUAL attributes and customer satisfaction.

## Literature Review

Public transportation according to Dziekan (2008) can be grouped into three main groups namely:

1. General public transportation: this form of transportation is generally offered to all people based on

- schedules and routes;
- 2. Special public transportation: this form also offers services to a specific group of people, that is, pupils, students, persons with disabilities;
- 3. Tourist and charter traffic: this form of transportation is offered to all citizens and tourists on visit to destinations.

This includes modals such as taxis and private hire buses, coaches, school buses, trains and airplanes which are owned and financed by the state or private individuals. Bus as a form of public transportation means motor vehicle with motive power, except a trailer ( Wijaya, 2009) designed for carrying more than 10 persons (including the driver), that is used to transport adults and/or children, unless otherwise noted.

Generally, there are two types of models in measuring service quality in public transport. One is the conceptual models such as Schembri & Sanberg's, (2002) presentation of 3 dominant models of service quality: Perceived Service Quality (PSQ) (Gronroos, 1984), Gap Analysis Model (GAM) or SERVQUAL (Parasuraman et.al, 1985, 1988) and analytical way based on Stated Preference analysis that overcome some critical factors linked to the use of scales. Despite the array of challenges bedeviling the use of SERVQUAL, it still remains the generic instrument for measuring service quality across different service sectors.

SERVQUAL has also been applied in various countries including the China (Chung-Wei et al., 2012), Ghana (Aidoo et al., 2013), India (Randheer, et al., 2011), Nigeria (Ali, 2012) and the United States (Kilbourne et al., 2004). Furthermore, several researchers have used SERVQUAL to measure service quality in various sectors such as public transport (Aidoo et al., 2013), airline (Sultan & Simpson, 2000), retail banking (Ravichandran, et al., 2010) and internet (Eriksson & Friman, 2007).

Table 1: SERVQUAL Dimensions with definitions

Dimension	Definition	Items
Reliability	The ability to perform the promised service dependably and accurately	5
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence	5
Tangibility	The appearance of physical facilities, equipment, personnel and communication materials	7
Empathy	The provision of caring, individualized attention to customers	4
Responsiveness	The willingness to help customers and to provide prompt service	5

Source: Parasuraman et al., 1988; Ojo et al., (2014)

SERVQUAL is based on the "GAP model" of service quality which facilitates quantification of the gap between customers' expectations of a service and their perceptions of the actual service delivered. These four or seven numbered items (26 items) on the modified SERVQUAL scale are used to measure each dimension (see table 1) based on expectations and perceptions of services rendered.

In transportation context, passenger satisfaction is created by the comparison of pre-travel expectations and post-travel experiences. Succinctly, when experiences of a passenger compared to the expectation results in feeling of gratification, then satisfaction is created. In marketing literature, Service Quality and Customer Satisfaction have been conceptualized as a distinct, but closely related constructs (Siddiqi, 2011). The two constructs have positive relationship (Beerli et al., 2004) with two opposing perspectives. Several researchers suggest that service quality leads to customer satisfaction (Kassim & Abdullah, 2010; Kumar *et al.*, 2010). Contrarily, Beerli (2004), Eboli and Mazzulla (2012) see customer satisfaction as one of the determinants to measure the quality of service.

Aidoo et al (2013) in a study in Ghana on Kumasi-Accra route using binary logit model to assess 492 randomly administered questionnaires affirm that, passenger's satisfaction with public transport service is highly influenced by bus traffic safety record, comfort as well as fare and control of crime rate at the bus station. This is because these factors seem to affect level of satisfaction of passengers on Accra-Kumasi route.

Tjeedra et al (2010) in a study seek to find out the difference regarding perception and experience of male and female as a user of public transport from 499 copies of questionnaire distributed by simple random sampling method in three cities in Indonesia. The analysis through heterogeneous customer satisfaction index (HCSI) reveals that female tends to be more satisfied than male in experiencing the services. The index also shows that the index is location specific which explains the uniqueness of each city. Analysis also found out that each of the 15 attributes has different contribution to the overall satisfaction in each city. The contribution of each attribute is also different when male and female are compared.

Fonseca, et al (2010) using interviews and focus groups as well as documents of transport company, non-consumers and consumers attempt to identify the determinants of service quality as well as its impacts on the satisfaction of public transport commuters taking into consideration both internal and external perspectives.

The results revealed that reliability, security, speed, comfort and punctuality are quality dimensions of greater importance for public transport services. In spite of the existence of a distinction between the constructs of quality and satisfaction, the transport company, non-consumers and customers clearly do not make such a distinction

Khurshid et al (2012) in Pakistan through purposive sampling of 120 questionnaires seek to ascertain how service quality influences customer satisfaction. The multiple regression result reveals that there was a positive relationship between service quality and customer satisfaction in the public transport sector in Pakistan.

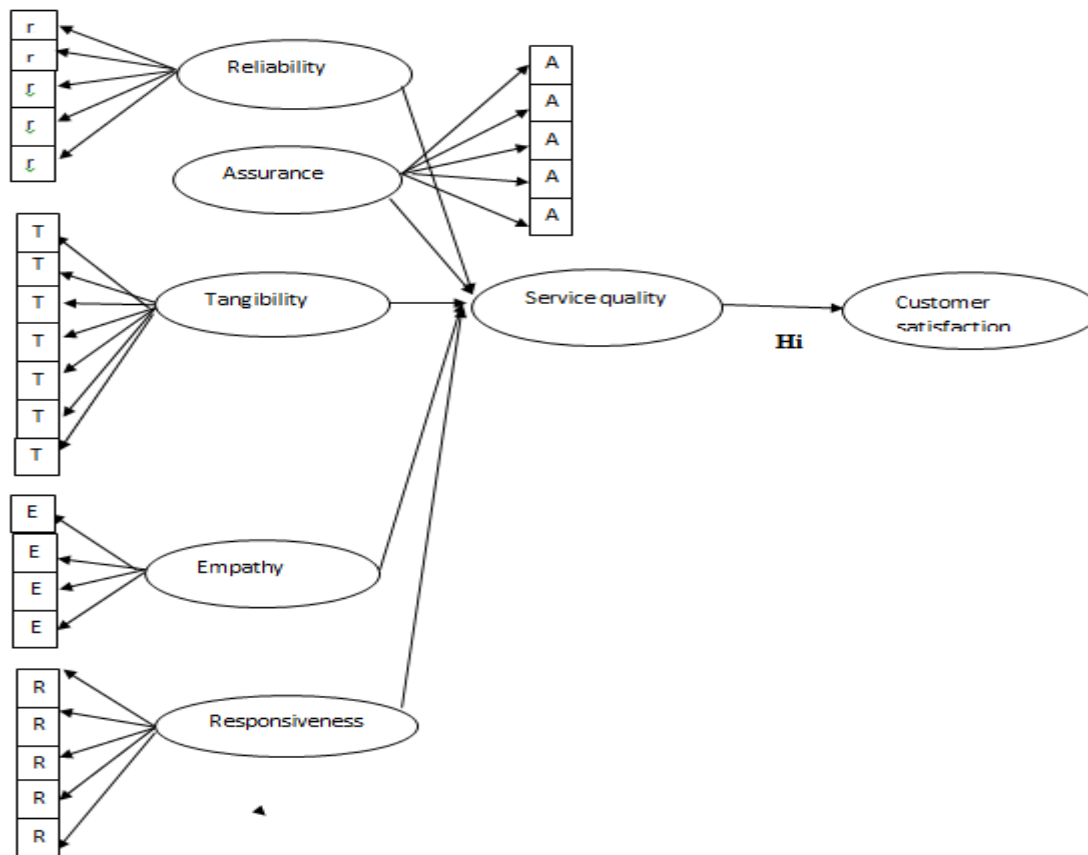
### Study Area

Ghana is a country in West Africa, which attained independence from British rule on March 6<sup>th</sup>, 1957. English is the official language of the country. The 2008 estimates stand at 23,382,848. Its population growth rate is 1.93 percent. At this rate Ghana's population would be 30,536,326 in 2025 and 38,735,638 in 2050. As at 2008 the population density was 101 persons per sq km. Ghana is more than 50 percent rural. It is the second largest exporter of Cocoa after Cote D'Ivoire, the sixth exporter of Gold and of late one of the exporters of crude oil. Ghana is gradually moving into the ranks of middle income country as been pursued in the introduction of Single Spine Structure by past and present governments.

Cape Coast city is in southern Ghana, capital of the Central Region. Cape Coast was the capital of the British Gold Coast until the 1870s, when the capital was transferred to Accra. It is the tourism hub of Ghana as its houses notable tourist attractions in the country. It is the educational hub in the entire country as there are a number of best senior high schools such as St Augustine's College, Nfantsipim, Wesley Girls High School and Adisadel College. The University of Cape Coast is also located in the south northern part of the city. Cape Coast has a settlement population of 169,894 (GSS, 2010).

Accra is the capital and largest city of Ghana. It is located in southeastern Ghana, on the Gulf of Guinea. Accra is an important commercial, manufacturing, and communications center. Accra is the administrative, political, economic, social hub of Ghana. It also houses Ghana's premier University of Ghana. The population of Accra keeps surging by the day. Currently the population estimates stands at 2,300,000.

Figure1: Conceptual Framework



Source: adapted from Parasuraman et al., (1988); Kian et al., (2012); Ojo et al., (2014)

### Methodology

There are 5 notable intercity bus transport companies offering its services from Cape Coast to Accra.

These are Intercity State Transport Corporation (ISTC), Metro Mass Transport Ltd (MMT or popularly called Metro), Ghana Private Road Transport Union (GPRTU), Cooperative Union, Frankol Transport Services (Operators of FORD buses). The other means of travelling involves moving buses picking passengers enroute to Accra. Some of these buses belong to GPRTU, Cooperative Union or private individuals in Cape Coast or from other cities and towns such as Takoradi or Twifo Praso going to Accra by beckoning to passengers on the road side. This study only captures the perceptions of passengers who board intercity buses at the designated stations in Cape Coast Metropolis.

The administration of 180 questionnaires was by on board survey on buses leaving the two stations in the study area. This was done to capture the three parts of transport service that can be assessed- booking (the process of obtaining tickets), facilities/services at the stations/terminal and the on board and disembarking services. The passengers were served the questionnaires at the point of occupying their seats after the researcher had explained the rationale for the study to them. At the end of the four-week exercise between the month of August and September, 2013, a total of 162 (90%) copies of questionnaires were found useful for the study (see Ojo et al., 2014).

The researcher first sought for permission from the station masters of the designated stations. ISTC on the only offer skeletal service to Cape Coast where passengers bound to Accra wait for ISTC buses coming from Abidjan (Cote D'Ivoire) or Takoradi with reserved seats for them. The rationale of the study was explained to the passengers and only those who were willing were served the questionnaires. The sampling procedure was a mixture of systematic and purposive. For the GPRTU buses, the researcher decided to serve the questionnaire on every 3<sup>rd</sup> passenger for all the 15 seater buses that were used for the study. But for the MMT, the researcher selected every 5th passenger to be served a questionnaire because of the capacity of these buses (35-50seats). The buses in which the on-board survey took place were purposively selected.

## **Results and discussions**

### **Reliability and validity**

The study used Cronbach's alpha on the independent variables to determine the reliability of the instrument used. Pallant (2005) has suggested 0.70 as the acceptable level for reliability measure. The Alpha values in table 1 range from .903 to .907 thus indicating acceptable level of reliability.

### **Gap analysis: Comparison of Expectations and Perceptions on Service Quality**

The assumption is that when the Expected Service (ES) is greater than the Perceived Service (PS) quality will be perceived as being less and less than satisfactory, the greater the difference between ES and PS is, when ES=PS quality is satisfactory, when ES<PS, quality will be more and more satisfactory as the difference between PS and ES grows.

**Table 2: Reliability analysis of the 26 SERVQUAL attributes**

SERVQUAL Dimensions	expectation	Cronbach's Alpha Perception
Reliability		
1. Bus always arrives on time		
2. Bus never breaks down on the road		
3. Passengers can book tickets easily		
4. Staff satisfy passengers' request right the first time	.906	.903
5. There is a schedule timetable for buses		
Assurance		
1. Passengers feel safe in their transactions with staff		
2. Passengers luggage are safe		
3. Staff are always polite	.905	.905
4. Staff have in-depth occupational knowledge of their jobs		
5. Behaviour of staff instills confidence in the passengers		
Tangibles		
1. Staffs attire is neat and smart		
2. Bus companies have a professional appearance		
3. Bus companies have adequate shed for passengers		
4. Bus companies have spacious seats for passengers on board	.906	.904
5. The ticket office is attractive and neat		
6. Buses are well maintained and neat		
7. Buses have ample legroom and foot space		
Empathy		
1. Bus companies have passengers interest at heart	.907	.906
2. Bus companies convenient operating hours		
3. Easy accessibility of information about services		
4. Easy to find and access the ticket office/station		
Responsiveness		
1. Staff provide individualized attention to help customers		
2. Bus companies always inform people of availability of services and changes in prices in advance		
3. Bus companies provide timely and efficient services		
4. Communication with staff is clear and helpful		
5. Staff are always willing to help passengers	.905	.903

**Source: fieldwork, 2013.**

**Reliability:** As shown in Table 3, overall gap score (-.03) indicates that mean difference between expectations (2.05) is higher than the mean perception (2.02). The least gap score was on the attribute "bus never breaks down" (-0.08) and the highest was on "staff satisfy passengers' request right the first time" (0.05).

**Assurance:** the overall gap score (0.13) shows that mean difference between perception is higher than the mean expectation. The least mean gap score recorded by passengers feeling safe in their transactions with staff and passengers being safe (.02).

Table 3: Gap scores representing customer satisfaction

Attributes		N	Expectations			Perceptions			Gap (P-E)
			% that agree	Mean	SD	% that agree	Mean	SD	
<b>Reliability</b>									
1.	Bus always arrives on time	162	33.3	2.02	0.803	31.5	1.88	0.859	0.14
2.	Bus never breaks down on the road	162	27.2	1.89	0.804	29.6	1.81	0.867	0.08
3.	Passengers can book tickets easily	162	44.4	2.16	0.841	36.4	2.06	0.817	0.10
4.	Staff satisfy passengers' request right the first time	162	38.3	2.15	0.769	39.5	2.20	0.740	0.05
5.	There is a schedule timetable for buses	162	29.6	2.02	0.760	45.7	2.17	0.846	0.15
<i>Overall score</i>		<i>162</i>	<i>34.6</i>	<i>2.05</i>	<i>0.457</i>	<i>36.5</i>	<i>2.02</i>	<i>0.496</i>	<i>0.03</i>
<b>Assurance</b>									
6.	Passengers feel safe in their transactions with staff	162	39.5	2.23	0.716	50.0	2.25	0.829	0.02
7.	Passengers luggage are safe	162	36.4	2.17	0.733	47.5	2.19	0.853	0.02
8.	Staff are always polite	162	22.8	1.83	0.777	45.7	2.04	0.938	0.21
9.	Staff have in-depth occupational knowledge of their jobs	162	40.1	2.11	0.827	55.6	2.37	0.779	0.26
10.	Behaviour of staff instills confidence in the passengers	162	31.5	2.04	0.771	41.4	2.17	0.798	0.13
<i>Overall score</i>		<i>162</i>	<i>34.1</i>	<i>2.07</i>	<i>0.491</i>	<i>48.0</i>	<i>2.20</i>	<i>0.589</i>	<i>0.13</i>
<b>Tangibles</b>									
11.	Staffs attire is neat and smart	162	34.0	2.09	0.763	30.2	1.88	0.847	0.21
12.	Bus companies have a professional appearance	162	41.4	2.00	0.912	34.6	1.87	0.900	0.13
13.	Bus companies have adequate shed for passengers	162	41.4	2.20	0.771	42.6	2.10	0.865	0.10
14.	Bus companies have spacious seats for passengers on board	162	48.1	2.33	0.729	35.2	2.14	0.738	0.19
15.	The ticket office is attractive and neat	162	28.9	2.02	0.750	34.2	1.86	0.902	0.16
16.	Buses are well maintained and neat	162	37.7	2.16	0.755	27.8	1.96	0.775	0.20
17.	Buses have ample legroom and foot space	162	27.8	1.98	0.760	40.7	2.16	0.795	0.18
<i>Overall score</i>		<i>162</i>	<i>34.0</i>	<i>2.11</i>	<i>0.360</i>	<i>35.0</i>	<i>1.99</i>	<i>0.642</i>	<i>0.12</i>
<b>Empathy</b>									
18.	Bus companies have passengers interest at heart	162	13.0	1.75	0.672	36.4	2.07	0.808	0.32
19.	Bus companies convenient operating hours	162	22.8	1.81	0.784	30.2	2.10	0.707	0.29
20.	Easy accessibility of information about services	162	29.6	1.93	0.816	25.3	2.07	0.661	0.14
21.	Easy to find and access the ticket office/station	162	45.1	2.20	0.818	30.2	2.09	0.712	0.11
<i>Overall score</i>		<i>162</i>	<i>27.6</i>	<i>1.92</i>	<i>0.486</i>	<i>30.5</i>	<i>2.08</i>	<i>0.544</i>	<i>0.16</i>
<b>Responsiveness</b>									
22.	Staff provide individualized attention to help customers	162	17.3	1.67	0.756	42.6	2.28	0.707	0.61
23.	Bus companies always inform people of availability of services and changes in prices in advance	162	33.3	1.96	0.844	25.3	1.87	0.789	0.09
24.	Bus companies provide timely and efficient services	162	23.5	1.77	0.806	31.5	2.07	0.744	0.30
25.	Communication with staff is clear and helpful	162	26.5	1.89	0.796	31.5	2.04	0.767	0.15
26.	Staff are always willing to help passengers	162	30.9	1.91	0.840	51.2	2.24	0.855	0.33
<i>Overall score</i>		<i>162</i>	<i>26.3</i>	<i>1.84</i>	<i>0.521</i>	<i>36.4</i>	<i>2.10</i>	<i>0.515</i>	<i>0.26</i>

Scale: 1-1.49 = Disagree; 1.50-2.49 = Indifferent; 2.50-3.0 = Agree

Source: Fieldwork, 2013

**Tangibles:** the overall gap score (-0.12) indicates that mean difference between expectation is greater than the mean expectations. The least gap score was recorded by attribute "bus companies have a professional appearance" (-0.13) and the highest gap score was "buses have ample legroom and foot space" (0.18). All the other six attributes had gap scores indicating mean expectations being higher than the mean expectations.

**Empathy:** the overall gap score (0.16) indicates that mean difference between perception is greater than the mean expectations. The highest gap score (0.32) was on the attribute "bus companies have passengers interest at heart" and the least gap score (-0.11) was "easy to find and access the ticket office/station".

**Responsiveness:** the overall gap score (0.26) indicates that mean difference between perceptions of the five attributes is higher the expectations. The least gap score (-0.09) was on the attribute "bus companies always inform people of availability of services and changes in prices in advance" and the highest gap score (0.61) was



on “staff provide individualized attention to help customers”.

From the foregoing as in Nutsogbodo (2013), attributes with negative gap scores revealed that passengers were not satisfied. This invariably means that passengers were not satisfied with half of the attributes. The current study revealed that respondents were not satisfied with 15 attributes.

### Conclusion and Recommendations

It is revealed in the study that, 15 attributes in the SERVQUAL scale portray poor perception of service quality. This means that respondents were not satisfied with more than half of the attributes: staff satisfy passengers' request right the first time, there is a schedule timetable for buses, passengers feel safe in their transactions with staff, passengers luggage are safe, staff are always polite, staff have in-depth occupational knowledge of their jobs, behavior of staff instills confidence in the passengers, buses have ample legroom and foot space, bus companies have passengers interest at heart, bus companies convenient operating hours, easy accessibility of information about services, staff provide individualized attention to help customers, bus companies provide timely and efficient services, communication with staff is clear and helpful and staff are always willing to help passengers.

It is very possible that some questions on the SERVQUAL scale were not answered correctly. This is because the respondents had to first respond to the expectations questions before the perceptions' questions. Therefore, this may have accounted for the number of attributed that contributed to satisfactory service. This does not rule out the fact that the service providers have a couple of attributes which have to be addressed to have optimal service. As has been pointed out, the GPRTU and MMT managers have to improve on certain attributes that did not indicate satisfactory service to the customer. In this era where there are many service providers entering the industry, they may lose their teeming passengers to competitors. This will not only cause a decline in passengers' movements but also affect the amount of revenue generated. eventually, these service providers will be forced out of business.

Researches on customer satisfaction have always been a single evaluative exercise from the customers and may not be related to how many times the customer has made use of such a service. A not too pleased customer today may receive a satisfactory service tomorrow. At times it may be an attribute of a service that causes the customer to be satisfied with a particular service. The experience may be pleasurable but yet unsatisfactory as it fails to meet the expectations. Satisfaction therefore is an evaluation of the emotion.

The inability of other operators on the route to participate in the research may have changed the perception. The entry of all the operators may give a different picture of the relationship between service quality and customer satisfaction on Cape Coast-Accra route. Similar studies can be conducted on the other operators for comparative analysis. More so, this study could have revealed the differences in the perception of service quality and customer satisfaction between a government funded “MMT” and a private operator “GPRTU”. Future studies can address this phenomenon.

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